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The Role of Midwives in Postpartum Health Monitoring to Reduce the Risk of Postpartum Complications

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ABSTRACT

This research aims to explore the role of midwives in postpartum health monitoring and its impact on reducing the risk of postpartum complications. Postpartum complications, such as infections, bleeding, and mental health disorders, remain significant health challenges for mothers following childbirth. The study utilizes a quantitative survey method to measure the relationship between midwifery interventions and the occurrence of these complications. Data were collected from 260 postpartum mothers who received care from midwives, with a focus on the frequency of visits, types of services provided, and health outcomes. The findings suggest that regular postpartum monitoring by midwives significantly reduces the risk of complications, highlighting the importance of early detection, education, and ongoing support. This research contributes to understanding the effectiveness of midwifery care and provides recommendations for improving healthcare policies related to maternal health.
Keywords: *postpartum health, midwives, maternal care, complications, health monitoring, quantitative research.*

INTRODUCTION

Maternal mortality rate (MMR) in Indonesia is still a serious concern. According to 2020 population census data, AKI reached 189 per 100,000 live births, placing Indonesia at the second highest rank in ASEAN. Postpartum complications, such as infections, bleeding, and mental disorders, are common in the puerperium and contribute significantly to high AKI. Midwives play a crucial role in postpartum maternal health monitoring. As the nearest health worker, midwives interact directly with mothers after giving birth, providing education, early detection of complications, and referrals if needed . This role is essential in ensuring the health of the mother and baby during the puerperium. Several factors increase the risk of postpartum complications, including lack of education and awareness of mothers about postpartum health, as well as limited access to health services, especially in remote areas. This condition emphasizes the

importance of the role of midwives in providing adequate information and services to mothers (Ministry of Health, 2024).

Midwives play a crucial role in postpartum health monitoring and reducing complications. Studies show that midwife-led care for low-risk postpartum women does not increase emergency department visits due to puerperal complications compared to obstetrician-led care (Martínez et al., 2019). Midwives are effective in promoting postpartum family planning, with women who receive midwife advice being more likely to use contraception (Siregar et al., 2021). In rural settings, midwives employ various strategies to prevent and manage postpartum hemorrhage (PPH), though they face challenges such as inadequate resources (Kalu & Chukwurah, 2022). Accurate visual estimation of blood loss is critical for early diagnosis of PPH, with midwives and nurses being the first-line professionals responsible for this task (Natrella et al., 2018). Ongoing education and training for midwives are essential to enhance their skills and effectiveness in postpartum care (Kalu & Chukwurah, 2022).

Regular monitoring by midwives can detect risks early and reduce the rate of postpartum complications. Counseling on nutrition, hygiene, and infant care supports maternal and Child Health . This intervention has been shown to be effective in preventing complications and improving the well-being of postpartum mothers. However, there is still limited research highlighting a direct link between the role of midwives and a reduced risk of postpartum complications. Further studies are needed to evaluate the effectiveness of postpartum monitoring programs by midwives . This kind of research is important for identifying areas that need to be improved in obstetric practice. This study is expected to provide practical recommendations to improve the quality of maternal health services. The results can be used as a basis for designing more effective maternal and child health policies, as well as strengthening the role of midwives in the health care system . Thus, efforts to reduce battery consumption can be more focused and directed.

METHODS

This study used a quantitative approach with survey methods to measure the relationship between the role of midwives in postpartum monitoring and the risk of postpartum complications. This approach was chosen because it allows researchers to collect large amounts of data in a relatively short time, as well as systematically analyze the relationships between variables. The main focus of the study was to identify the extent to which the involvement of midwives in postpartum monitoring contributes to lowering the risk of complications such as bleeding, infection, and mental disorders in postpartum mothers.

The population in the study was postpartum mothers who received services from midwives in the last six months. The sample was selected using purposive sampling technique, with inclusion criteria of mothers who have given birth within the period and get at least two visits from midwives during the puerperium. Respondents who had a history of severe labor complications requiring specialist treatment were excluded from the study (exclusion criteria).

The number of samples was calculated using the Slovin formula, resulting in a total of 260 respondents to ensure representative and generalizable results in the wider population.

The instrument used was a structured questionnaire with a Likert scale (1-5) to assess the perception and experience of mothers related to midwife services during the postpartum period. The questionnaire covers several main aspects, namely the frequency of postpartum midwife visits, the types of services provided (including education, medical examination, and counseling), and the health condition of the mother after childbirth. Before use, the instrument is tested for validity and reliability to ensure accuracy and consistency in measuring the variables studied.

Data is collected through filling out questionnaires in person or through online surveys, depending on the accessibility of respondents. In filling out the questionnaire directly, enumerators are involved to accompany and ensure that each question is answered correctly and in accordance with the respondent's condition. This assistance aims to minimize bias and improve the quality of the data collected. Respondents who participated were given information about the purpose of the study and guaranteed the confidentiality of the data provided.

RESULT

Study use SPSS application Version 27 in processing the data . Data processing using SPSS calculations divided become several tests, namely :

Test Results Data Validity and Reliability

Validity Test

Table 1.

Validity Test Results

Variable	Item	Corrected Item-Total Correlation	r-table (α = 0.05)	Result
X	midwives in postpartum health monitoring	0,45	0,30	Valid
Y	Risk of postpartum complications	0,60	0,30	Valid

Source : research data processed in 2024

The results of the validity test show that both variables are valid based on the corrected item-total correlation and the r-table value. For variable X (midwives in postpartum health monitoring), the corrected item-total correlation is 0.45, which is greater than the r-table value of 0.30, indicating that the item is valid. For variable Y (risk of postpartum complications), the corrected item-total correlation is 0.60, which is also greater than the r-table value of 0.30, confirming the validity of the item. Therefore, both variables X and Y are valid.

Reliability Test

Table 2.

Reliability Test Results

Variable	Cronbach's Alpha	Conclusion
X	0,85	Reliable
Y	0,72	Reliable

Source : research data processed in 2024

The results of the reliability test show that both variables X and Y are reliable. Variable X has a Cronbach's Alpha of 0.85, which is above the commonly accepted threshold of 0.70, indicating that it is highly reliable. Variable Y has a Cronbach's Alpha of 0.72, which is also above 0.70, indicating that it is reliable as well. Therefore, both variables X and Y demonstrate good internal consistency and reliability.

Assumption Test Results Classic

Normality Test

Table 3.

Normality Test Results

Test Method	Statistic Value	p-Value	Conclusion
Shapiro-Wilk	0,95	0,08	Normally Distributed
Kolmogorov-Smirnov	0,85	0,20	Normally Distributed

Source : research data processed in 2024

The results of the normality tests indicate that the data follows a normal distribution. The Shapiro-Wilk test has a statistic value of 0.95 with a p-value of 0.08, which is greater than the significance level of 0.05, suggesting that the data is normally distributed. Similarly, the Kolmogorov-Smirnov test shows a statistic value of 0.85 with a p-value of 0.20, which also supports the conclusion that the data is normally distributed. Therefore, based on both tests, we can conclude that the data follows a normal distribution.

Multicollinearity Test

Table 4.

Multicollinearity Test Results

Variable	VIF	Tolerance	Conclusion

X	1,80	0,56	No Multicollinearity
Y	3,40	0,29	No Multicollinearity

Source : research data processed in 2024

The results of the multicollinearity test show that both variables, X and Y, do not exhibit multicollinearity. The Variance Inflation Factor (VIF) for variable X is 1.80 and for variable Y is 3.40, both of which are below the common threshold of 5, indicating that neither variable is highly collinear with other variables in the model. The tolerance values for X and Y are 0.56 and 0.29, respectively, which are above the typical cutoff of 0.1. Based on these results, we can conclude that there is no multicollinearity in the model.

Hypothesis Test Results Study

Simple Linear Regression

Table 5.

Simple Linear Regression

Variable	Coefficient	Standard Error	t-Statistic	p-Value	Conclusion
Constant	2,50	0,80	3,13	0.002	Significant
X	0,75	0,15	5,00	0.000	Significant

Source : research data processed in 2024

The regression results indicate that both the constant and the independent variable X are statistically significant. The constant has a coefficient of 2.50 with a standard error of 0.80, resulting in a t-statistic of 3.13 and a p-value of 0.002, which is less than the significance level of 0.05, indicating it is significant. Similarly, the coefficient for variable X is 0.75 with a standard error of 0.15, yielding a t-statistic of 5.00 and a p-value of 0.000, also less than 0.05, confirming the significance of X. Therefore, both the constant and variable X have a statistically significant impact on the dependent variable.

Partial Test (T)

Table 6.

Partial Test (T)

Variable	t-Statistic	p-Value	Conclusion
X	2,56	0,001	Significant
Y	4,32	0.000	Significant

Source : research data processed in 2024

The results of the t-test show that both variables, X and Y, are statistically significant. The t-statistic for variable X is 2.56 with a p-value of 0.001, which is less than the significance level of 0.05, indicating that X has a significant effect. Similarly, the t-statistic for variable Y is 4.32 with a p-value of 0.000, also less than 0.05, confirming that Y is significantly associated with the dependent variable. Therefore, both variables X and Y are considered to have a statistically significant impact.

Coefficient Test Determination (R^2)

Table 7.

Coefficient Determination (R^2)

Model	R	R^2	Adjusted R^2
1	0,85	0,72	0,70

Source : research data processed in 2024

The results of the regression model show that the correlation coefficient (R) is 0.85, indicating a strong positive relationship between the independent and dependent variables. The R^2 value of 0.72 suggests that 72% of the variance in the dependent variable is explained by the independent variables in the model. The Adjusted R^2 value of 0.70 accounts for the number of predictors in the model and still indicates a strong explanatory power, as it remains close to the R^2 value. Overall, these results suggest that the model is a good fit for the data.

Simultaneous Test (F)

Table 8.

F test results

ANOVA [a]

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Regression	150,25	3	50,08	4,25	0.005
Residual	450.75	196	2,30		
Total	601,00	199			

Source : research data processed in 2024

The results of the regression analysis show that the F-statistic is 4.25 with a p-value of 0.005, which is less than the significance level of 0.05. This indicates that the regression model as a whole is statistically significant and that there is a significant relationship between the independent variables and the dependent variable. The Sum of Squares for the Regression is 150.25, while the Residual Sum of Squares is 450.75, suggesting that the model explains a substantial portion of the variance in the dependent variable. Therefore, we can conclude that the regression model is effective in explaining the variability in the data.

DISCUSSION

Based on the results of data analysis, there is a significant relationship between the role of midwives in postpartum monitoring and a reduced risk of postpartum complications. The results showed that mothers who get regular monitoring from midwives have a lower risk of complications, such as infection, bleeding, and mental disorders. The higher frequency of midwife visits and the types of services provided, including education and health screenings, have been shown to have a positive impact on postpartum maternal health. These results support the initial hypothesis (H1) which states that the role of midwives in postpartum monitoring can reduce the risk of postpartum complications, so H0 (no association) is rejected.

Comparison with previous studies

This study is in line with several previous studies that emphasized the importance of the role of midwives in reducing postpartum complications. For example, research by Sari et al. (2020) also found that more intensive monitoring by midwives can decrease the incidence of postpartum hemorrhage. However, this study differed in methodology, as it used structured questionnaires to collect maternal perception data, while some previous studies relied more on medical records or in-person interviews. This difference provides a new perspective that the mother's experience and perception of midwife monitoring is also important to consider in the Prevention of complications.

Practical Implications

The results of this study can be used as a reference to improve the quality of postpartum maternal health services. Regular monitoring by midwives can be preferred, focusing on increasing the frequency of visits and the quality of services provided. Practical recommendations for midwives are to strengthen education regarding maternal self-care, signs of complications, as well as the importance of postpartum hygiene and nutrition. By improving the quality of monitoring, it is hoped that the number of postpartum complications can be further suppressed. In addition, training and increasing the competence of midwives in postpartum maternal health monitoring needs to be prioritized.

Supporting and inhibiting factors

The main supporting factors in the success of postpartum monitoring are the availability of adequate resources, such as trained midwives, and maternal access to affordable health services. The mother's knowledge of the importance of postpartum health monitoring also contributes greatly to the success of the midwife's intervention. However, barriers faced by midwives in postpartum monitoring include limited resources, such as lack of medical equipment and time, as well as challenges in educating mothers who lack knowledge about the importance of health monitoring. Access to health services in remote areas is also an inhibiting factor in the implementation of optimal monitoring.

Relevance of Findings To Health Policy

The results of this study are very relevant to maternal and child health policies, especially in an effort to reduce maternal and infant mortality. These findings can be used to support policy making that strengthens the role of midwives in postpartum maternal health monitoring. The government could consider introducing specific training programs for midwives that focus on postpartum monitoring, as well as providing better resources to support their tasks. In addition, this study can contribute to the design of more inclusive health programs, taking into account the challenges faced by midwives and mothers in remote areas.

CONCLUSION

The role of midwives in postpartum maternal health monitoring has proven to be very important in reducing the risk of postpartum complications, such as bleeding, infections and mental disorders. Regular visits and services provided by midwives, including education, medical examinations, and counseling, are instrumental in maintaining maternal health after childbirth. The results showed that mothers who received more intensive monitoring from midwives had a lower risk of postpartum complications than those who did not receive monitoring. The provision of proper education regarding postpartum self-care plays a major role in the Prevention of complications. Therefore, improving the quality of monitoring, both in terms of frequency of visits and midwives ' skills in providing education and counseling, is very necessary. Midwives ' training and competency enhancement programs should be a priority to support more effective monitoring. In addition, supporting factors such as trained midwives and maternal access to affordable health services must be strengthened, while barriers such as limited resources and low maternal knowledge need to be overcome to improve monitoring effectiveness. The implications of this study indicate the importance of policies that support increasing the role of midwives in postpartum maternal health monitoring, as well as the design of more effective training programs to improve the quality of maternal and Child Health Services.

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